UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,654	02/08/2006	Eberhard Geissel	502901-360 PUS	2470

27799 7590 06/23/2009

COHEN, PONTANI, LIEBERMAN & PAVANE LLP
551 FIFTH AVENUE
SUITE 1210
NEW YORK, NY 10176

EXAMINER	
HUFTY, JOHN PAGE	

ART UNIT	PAPER NUMBER
3747	

MAIL DATE	DELIVERY MODE
06/23/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,654	GEISSEL, EBERHARD	
	Examiner	Art Unit	
	J.PAGE HUFTY	3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/24/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 lacks antecedent basis for "the control device" and "the power output".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Staab U.S. Patent 6,152,688.

1. A fuel pump comprising:
a driven impeller facing a casing part **(Feature 7)**,
with rings of guide vanes arranged in the impeller concentrically enclosing one another and defining blade chambers;
partially annular fuel feed ducts **(Fig. 1 feature 10, 12)** facing the rings of guide vanes in the casing part;

outlet ducts connected to the partially annular ducts, the rings of the blade chambers and the partially annular ducts forming a radial inner delivery chamber **(Fig. 1 feature 10-13, 21)**
and a radial outer delivery chamber **(Fig. 1 feature 22)**;
a connecting duct connecting the radial outer delivery chamber is connected to the radially inner delivery chamber. **(Fig. 3, feature 14)**.

2. The fuel pump as claimed in claim 1, wherein the connecting duct is arranged in the casing part and connects partially annular ducts **(fig. 1 and 3, feature 4 and14)**.

3. The fuel pump as claimed in claim 1 or 2, wherein the connecting duct comprises of a groove arranged in the casing part **(fig. 3, feature 4 and 14)**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-11,15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Staab U.S. Patent 6,152,688.

To the extent that Staab does not expressly detail the subject matter set forth in applicant's claims this is considered to be obvious to one of ordinary skill in the art given the teaching of Staab figures 1, 2 and 3.

Applicant's subject matter sets forth known elements found in Staab, serving a known function and yielding no more than one of ordinary skill would expect.

Regarding claim 4 see Staab fig. 3 feature 14.

Regarding claim 5 it is obvious to one of ordinary skill that pressure will equalize at the connections of Staab feature 14 during operation.

Regarding claim 6 Staab feature 14 is at an angle as claimed and one of ordinary skill may vary the angle and orientation for various motivations including duct length and optimizing flow characteristic.

Regarding claim 7 and 8 see claim 6 comment.

Regarding claim 9 it is obvious to one of ordinary skill that Staab feature 14 has a middle section between ducts as claimed.

Regarding claim 10 it is obvious to one of ordinary skill that the impeller of Staab has a smooth surface for proper mating characteristics.

Regarding claim 11 see Staab fig. 3 feature 14.

Regarding claim 15 see citations and comment below:

15. (New) A fuel pump **(Staab: fig 1)** comprising:
a driven impeller facing a casing part, with rings of guide vanes arranged in the impeller concentrically enclosing one another and defining blade chambers **(Features 7,15,16,17)**;

partially annular fuel feed ducts facing the rings of guide vanes in the casing part; outlet ducts connected to the partially annular ducts, the rings of the blade chambers and the partially annular ducts forming a radial inner delivery chamber and a radial outer delivery chamber **(Features 10,11);** and

a connecting duct connecting the radial outer delivery chamber to the radial inner delivery chamber(**Features 14),**

wherein fuel is delivered from the radial outer delivery chamber to the radial inner delivery chamber when pressure in the radial inner chamber falls **(given Staab: col 4 line 27-31 it is obvious to one of ordinary skill that the pressure will equalize in the chambers as they are connected by duct 14).**

Regarding claim 16 see Staab fig 3 feature 14.

Claims 12, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Staab U.S. Patent 6,152,688 in view of Burhenne U.S. Patent Application Publication 2004/0211396.

Staab discloses the subject matter of applicant's claims as cited below.

To the extent that Staab lacks the jet pump subject matter of applicant's claims this is conventionally

known and taught by Burhenne for the improved performance of a fuel feed system.

12. (Currently amended) A fuel feed system for an internal combustion engine of a motor vehicle having a fuel pump with an impeller for drawing fuel from a fuel tank and delivering the fuel to the internal combustion engine, the pump comprising: **(Staab: fig 1 feature 7)**

a radial outer delivery chamber that is connected to the internal combustion engine **(Staab: feature 22)**;

a radial inner delivery chamber that is connected to a jet pump arranged inside the fuel tank **(Burhenne: fig. 1 feature 14, fig. 4 feature 44)**; and a connecting duct connecting the radial outer delivery chamber to the radial inner delivery chamber. **(Staab: Feature 14)**

Claim 17 is an obvious result to one of ordinary skill as pressure will equalize between chambers as they are connected by feature 14 of Staab. Further see Staab col. 4 line 27-31 regarding flow direction.

Regarding claim 18 see Staab fig. 3.

Regarding claim 19 see Staab fig. 1, 2 and 3 and related discussion of impeller housing structure.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burhenne and Staab as applied to claim 12 above, and further in view of Hamada U.S. Patent Application Publication 2004/0139946.

To the extent that Burhenne and Staab do not expressly disclose the control device of applicant's claims this subject matter is conventionally known and practiced for the benefit of pressure control as taught by Hamada. See Hamada ¶0004.

Response to Arguments

Applicant's arguments filed 04/09/2009 have been fully considered but they are not found to be persuasive by the examiner. Regarding applicant's assertion:

"Among the limitations of independent claim 1 not present in Staab is outlet ducts connected to the partially annular ducts, the rings of the blade chambers and the partially annular ducts forming a radial inner delivery chamber and a radial outer delivery chamber, and a connecting duct connecting the radial outer delivery chamber to the radial inner delivery chamber."

Both annular ducts of Staab have outlets: the inner outlets to passage 14 the outer has outlet 13. Staab also has an inner and outer delivery chamber formed by the casing ducts and the impeller see fig. 1. These inner and outer "chambers" are connected by feature 14 a "connecting duct".

Regarding applicant's assertion concerning Staab that:

"The flow within the overflow channels 14 occurs from the radial inner channel to the radial outer channel."

See Staab col. 4 line 27 - 31, that describes flow from the outer to the inner chamber.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J.PAGE HUFTY whose telephone number is (571)272-9966. The examiner can normally be reached on 9:00 am - 5:00pm, Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen K. Cronin can be reached on 571-272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. Page Hufty/
Examiner, Art Unit 3747

/Stephen K. Cronin/
Supervisory Patent Examiner, Art Unit 3747